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PROTECTIVE SCREENS FOR PERSONNEL DOING RESEARCH
WORK WITH A TROCHOSCOPE AND FOR THE PROTECTION
OF PHYSICIANS INVESTIGATING THE OSSEOARTICULAR
SYSTEM

- USSR -

by I. B. Gurevich

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PROTECTIVE SCREENS FOR PERSONNEL DOING RESEARCH
WORK WITH A TROCHOSCOPE AND FOR THE PROTECTION
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SYSTEM

Following is a translation of an article
written by Docent I. B. Gurevich in Vestnik
Rentgenologii i Radiologii (Herald of Roent-
genology and Radiology), Vol. 35, No. 1,
Moscow, January 1960, pages 54-55.

From the Central Order of Lenin Institute of Hematol-
ogy and Blood Transfusion (Director -- Member of the Academy
of Medical Sciences USSR and Honored Scientist Professor
A. A. Bagdasarov).

Dosimetric investigations conducted by V. P. Viktor-
ina, E. Ye. Troitskiy, and others in the State Scientific-
Research Institute of Roentgenology and Radiology have
shown that the maximum permissible level of irradiation of
physicians "is significantly exceeded in the presence of
investigations of the gastrointestinal tract with a trocho-
scope." In other points of the working site, the level of
irradiation did not exceed the maximum permissible dose --
0.05 r per working day.

In their conclusions the authors propose to ensure
the protection of physicians in the presence of investigat-
ions with a trochoscope, as well as in the presence of the
investigation of the osseoarticular system by the physician
in a consulting room.

The question raised by the authors is of very great
current interest and requires quick solution. It should be
underlined that one has to resort to trochoscopy not only in
investigations of the gastrointestinal tract, but also in
the roentgenoscopy of the organs of the thoracic cage. In
addition, it is necessary in trochoscopy to protect not only
the physician, but also the nurse, without whose aid it
would be impossible to conduct an investigation of the in-
testines.

We wish to communicate our experience in the organiz-
ation of the protection of personnel in trochoscopy and the

investigation of the osseointegration system.



Fig. 1

A piece of leaded rubber 111 x 60 cm in diameter, inserted in a metallic frame, serves for the protection of the physician (see Fig. 1a). On the inner side of the lateral metallic plates at mid-length are found two hooks, with the aid of which a "little" screen is inserted into the longitudinal cuts of the support, along which the screen can be advanced any distance.

For the protection of the nurse in trochoscopia we use a "large" screen, consisting of a somewhat changed protective screen of the "Rentok" factory; it is wider (130 cm) and lower (150 cm); it is so designed that the nurse can conveniently hold the hook in irrigoscopia (see Fig. 1b). The "large" screen also serves to protect the physician when he takes photographs of the osseointegration system; for this purpose the screen is located near the writing table of the physician and

behind his chair. In this position the screen protects the nurse at the time of roentgenoscopy, when the physician is at the X-ray screen.

Our dosimetric measurements showed that both screens reliably protect personnel; the dose per working day does not exceed 0.05 r.

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